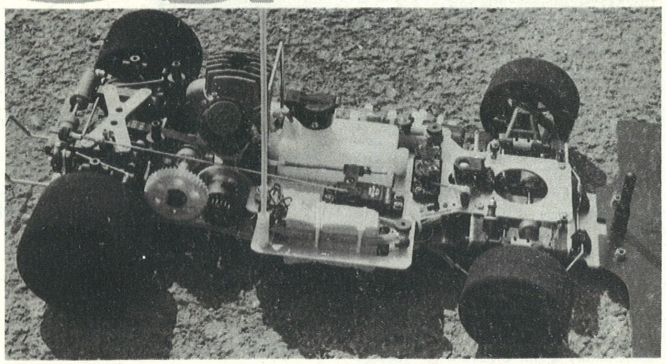
Track Test

SG COLUMBIA MK2 "83"

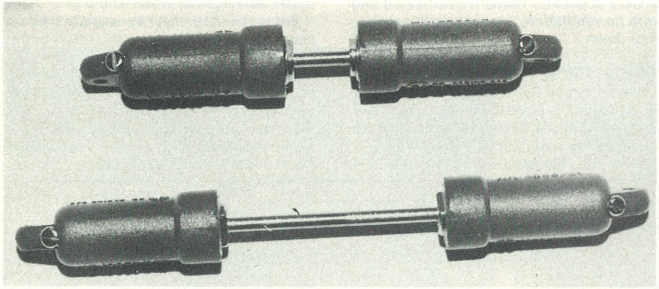
SG RACING CAR

By John Glen



HAVING SEEN UK Importer of SG Cars testing the new 'Columbia MkII' at Crystal Palace, I was delighted at being given the opportunity of reviewing the latest offering from renowned manufacturers *SG Racing Car* of Bologna, Italy. One could be forgiven for thinking that this is a similar car to the older Columbia IS4. However, substantial changes have been made for the Mk.II, changes undoubtedly prompted by the imminence of the World Championships to be held in France during July. These changes include:

1. Aluminium alloy chassis and radio plate (GRP on the original Columbia IS4.
2. Monoshock shock absorbers. Shock absorbers work in pairs (front and rear) as opposed to independently on each corner and so eliminating differences between the two sides of the car.
3. Belt drive. The IS4 had a chain drive from the lay shaft to the centre-differential.
4. Suspension is by means of torsion bars (the IS4 had hairpin springs).
5. Adjustable camber for rear suspension.

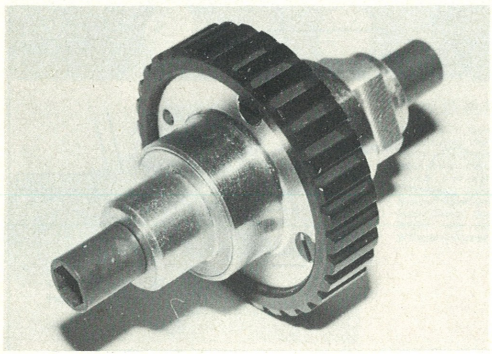


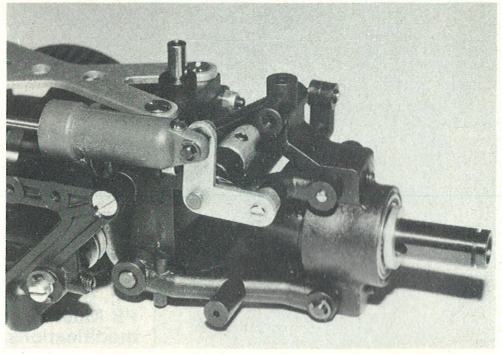
The kit

A considerable amount of time was spent just looking at the mass of beautifully made components sealed in plastic bags. The components are bagged in a logical order, two or three bags of components going to make a sub-assembly. The bags are unmarked, although this does not present a real problem, as all parts are easily identifiable by referring to the instructions. At the bottom of the box (when I eventually reached it) were the instructions together with an endorsement by Phil Greeno (who?), a complete spares price list, a very nice set of SG decals and a complete set of numbers.

As with its predecessor the instructions for the Columbia Mk.II take the form of an exploded view diagram of the complete car with a series of smaller diagrams showing the construction of the front and rear suspension sub-assembles. Also on the same sheet are details of suspension settings which are in the form of drawings and photographs.

Left: the 'Columbia' dampers feature moulded nylon barrels complete with 'bleed' hole at the base. Below left: completed differential ready for installation into the car. Below: rear end detail, how many grub screws can you see?





Construction

I decided to follow the sequence of diagrams during construction and so the shock absorbers were assembled first; assembly of these is straightforward, following the four diagrams showing construction and topping up with oil. Having talked to several people already running Columbia Mk.II's, it was decided to fill the rear shockers with 3 in 1 oil, and the front shockers with SAE 20 W50.

Having completed the shock absorbers these were put on one side until needed.

At this stage it is time to begin work on one of the suspension assemblies. Following the sequence of drawings the front suspension is detailed in five separate drawings. Following these together with references to the main diagram the front suspension assembly goes together very easily, due in no small way to the superbly moulded parts supplied. Slight polishing of the suspension pivot rods is advisable to give absolutely free movement front and rear.

With the front suspension completed and put to one side, construction of the rear suspension assembly can be started.

The first component to be built is the geared differential. This is a very simple matter as most of the work is already done. The four bevel gears are pre-assembled in their housing, this requiring packing with grease before the final assembly of the outer case and belt drive gear.

Following the differential, the right and left hand suspension assemblies are constructed.On emptying the bags containing the components, two small cams were noticed. These are fixed into the rear bearing hubs. Through these cams pivot the lower wishbones, thus by rotating these cams the camber of the rear suspension can be changed very easily.

The only real problem encountered with the rear suspension assembly was when joining the differential and suspension components together to form one unit. Four rubber buffers have to be installed in the drive shaft sockets to cushion the drive shafts. The outer suspension components then have to be compressed together over the differential and held together by means of alloy brackets and self-tapping screws. I found it extremely difficult to compress the components together enough to enable the fitting of these brackets. However, this problem is eased by cutting the inboard buffers down by one-third.

Before beginning assembly of components onto the chassis, it is worth spending a few minutes with a needle file removing sharp edges from the chassis, motor pod and radio plate.

Final construction of components to form a rolling chassis is straightforward, all parts fitting squarely onto the perfectly drilled chassis and motor pod.

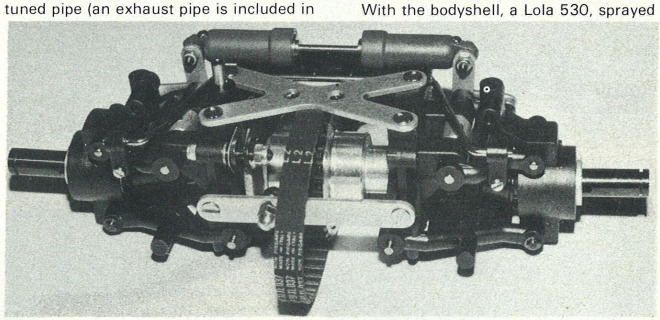
The kit supplied for review was the *OPS* version and so the new *OPS* rear exhaust motor supplied by *OPS Distribution,* 512 Berridge Road West, Hyson Green, Nottingham, was fitted complete with the new *OPS* tuned pipe (an exhaust pipe is included in the kit but this is a standard muffler only). This is apparently the power unit being used by the *SG* team this year. Installation is very easy, all components fitting first time even down to the motor mounts which are pre-drilled and tapped for the particular motor specified.

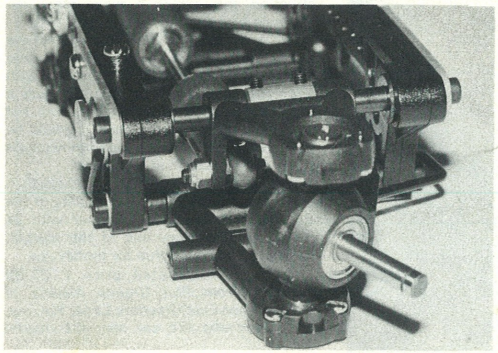
I fitted *JR* radio to the car — however, no problems should be encountered fitting any of the modern radio systems. Servos fitted perfectly into the pre-cut radio plate, only requiring holes to be drilled for fixing screws. All control linkages are provided in the kit together with heavy duty output arms for the popular types of servo. Connection of these linkages is very simple, this being shown on the excellent main diagram. On the original 'IS4' the steering servo faced downwards through the radio plate, linkages being connected in the space between the radio plate and chassis. On the Mk.II the servo saver (double ball-raced) has been re-designed to allow linkages to be made above the radio plate, thus allowing easier access for maintenance etc.

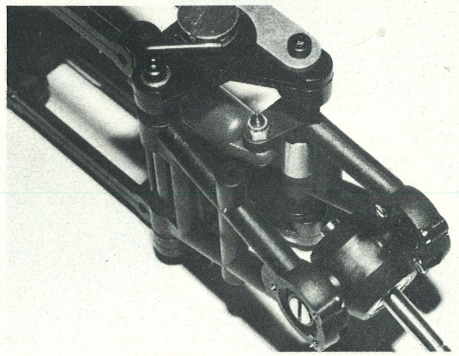
A bodyshell is not included in the kit. However, a full range of *SG* bodies are stocked by *Phil Greeno Models Ltd.* These bodies are extremely good value having a very good detail and prices range from only £7.50 to £7.95, quite amazing when compared to similar offerings from some other manufacturers.

With the bodyshell, a Lola 530, sprayed

Right: completed rear end assembly. Although very strong the belts are not unbreakable so it is a good idea to loop one around the diff. assembly to save taking the whole rear end apart. Below; and below right: front assembly incorporates castor adjustment, high quality knuckle joints, adjustable springing and suspension limit stops.

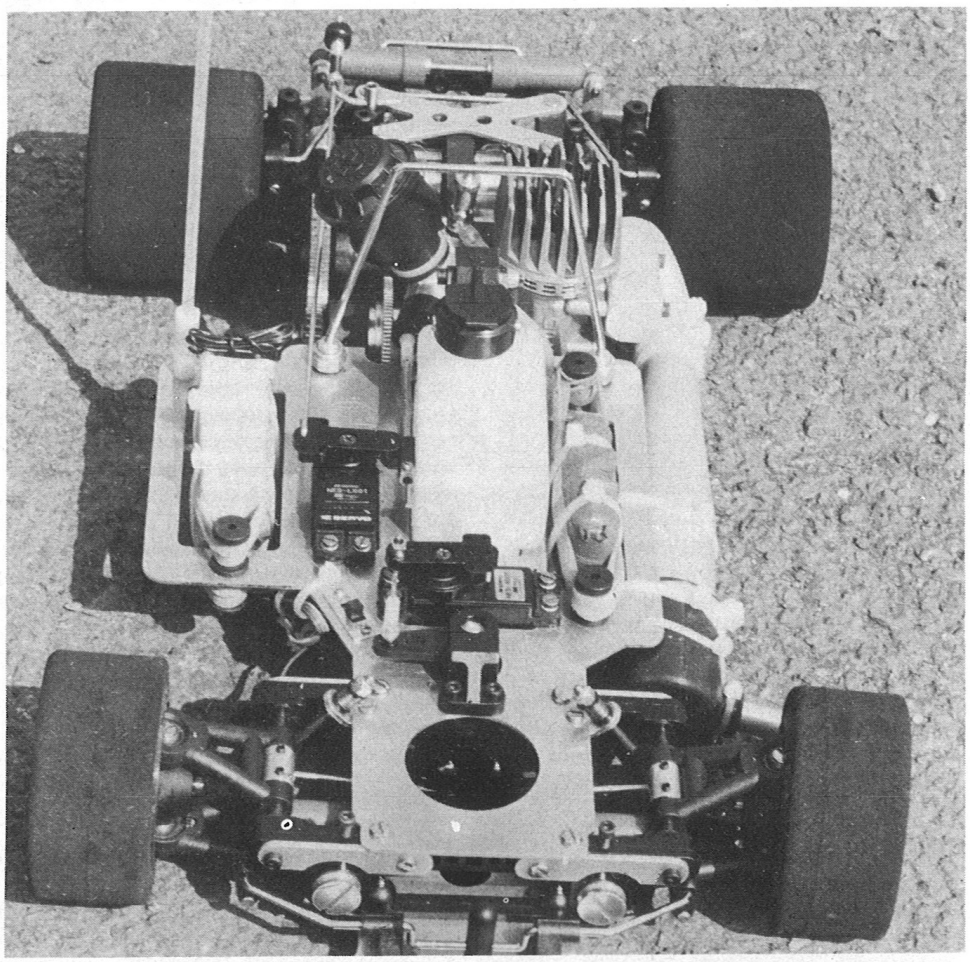




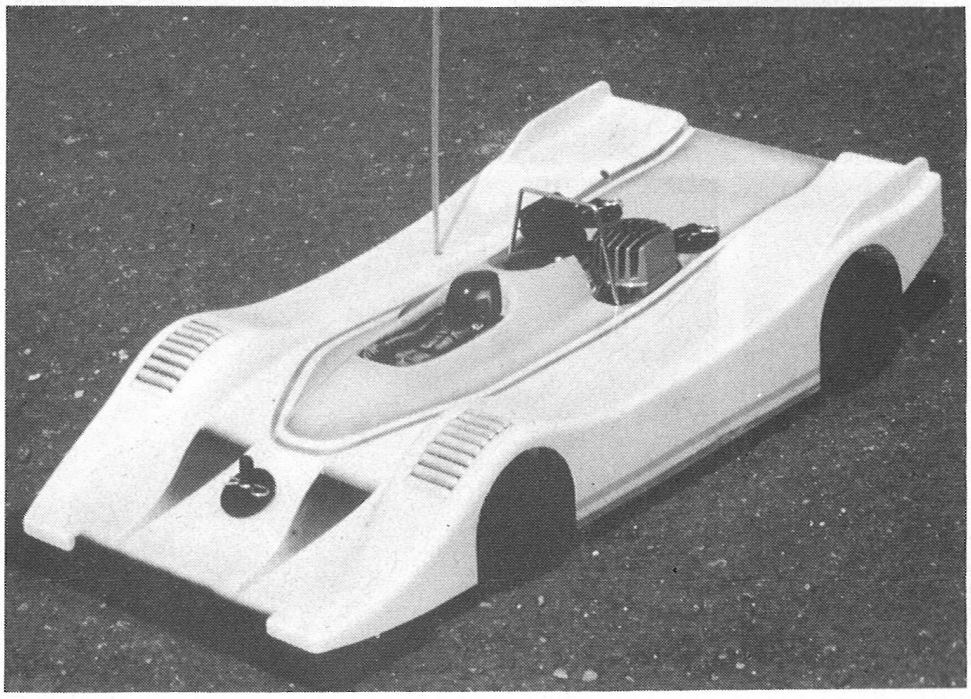


courtesy of Warren King — spraying bodyshells never was my forte) — it is time to set the car up.

Ride adjustment is quite simple. The correct ride height is achieved by increasing or decreasing tension on the torsion bars by means of simple cams. Further adjustment of the front suspension is achieved by slackening or tightening two ride height adjuster bars.



Above: the completed car, looking very purposeful and ready for the track. The OPS pipe combination fits snugly between the wheels, although the pipe tends to sit 'low' at the end. Below: Lola '530' bodyshell tastefully decorated by Warren King.



Out on the track

I was very impressed with the car's performance straight out of the box on standard kit tyres. The car's excellent ability to put the power down onto the track coupled with the *OPS* motor and tuned pipe, resulted in a shattering performance off the line. The instaneous power available from the motor-pipe combination resulted in some wheelspin from a standstill; however, once the car settled it stayed as straight as a die under full power, the suspension absorbing all bumps on the way. During the first couple of test runs I found myself over-estimating the length of the straight available. However, pulling back on the stick engaged the nicely progressive brakes bringing the car to a standstill in a few feet and only showing signs of locking when in the final stages of stopping the car.

Balance of the car on kit tyres through corners is very good, if anything being biased towards slight understeer. Hairpins are dealt with very easily, the car going round very sweetly. This was aided by the amazing throttle response available enabling the rear end of the car to be pushed out to the required angle very easily. The stability of the car should make it ideal for the beginner or the inexperienced driver.

That is not to say that the car is uncompetitive. On the contrary, the car is already successful. Its latest success was at Southampton in the capable hands of UK SG Team driver Bob Errington winning the Sports/GT 'A' Final. (This car was fitted with the same motor/pipe combination as the test car. As if this wasn't enough, the lap record was smashed on the way to victory. Other UK team drivers fared well with John Chamberlain achieving two seconds and a third as well as Phil Greeno who made two of the A-Finals.

Summary

This is certainly a car which is forgiving to drive. With a good motor/pipe combination certainly capable of winning races at the highest level in experienced hands.

However, the enjoyment begins long before putting the car on the track, as constructing the car is a pleasurable experience in itself.

The only criticism I had was against the instructions. Although the drawings are very good, one or two points could do with more detail. However, anyone with only a slight knowledge of model cars will not have any real problems here. It would be nice, however, to see a typed instruction sheet to help absolute beginners.

To sum up then, a competitive car both in performance and price. The quality of the kit is superb and this, together with its pricing at the lower end of the market, makes it excellent value for money.

Recommended retail price £169.95 available from *Phil Greeno Models,* 9 Village Way East, Rayners Lane, Harrow, Middlesex and r/c car specialist model shops.